

**Bonneville Power Administration  
Fish and Wildlife Program FY99 Proposal**

**Section 1. General administrative information**

**The Fish Passage Center**

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**Bonneville project number, if an ongoing project** 9403300

**Business name of agency, institution or organization requesting funding**  
Pacific States Marine Fisheries Commission

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**Business acronym (if appropriate)** PSMFC

**Proposal contact person or principal investigator:**

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**Subcontractors.**

Organization	Mailing Address	City, ST Zip	Contact Name
N/A			

**NPPC Program Measure Number(s) which this project addresses.**

NPPC Fish & Wildlife Program Measures 3.6F 10, Sections 5.1.B.1 303,403b, 1403.2.8

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**NMFS Biological Opinion Number(s) which this project addresses.**

NMFS BO RPA Section 13a

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**Other planning document references.**

NMFS BO RPA Section 13a, RPA Section 8,16, 13 (a)

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**Subbasin.**

Columbia River Mainstem and Snake River Mainstem

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**Short description.**

Provide the fishery agencies and tribes with technical expertise regarding hydrosystem operations, analysis of smolt monitoring data, for daily, weekly and monthly fish passage management decisions.

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**Section 2. Key words**

Mark	Programmatic Categories	Mark	Activities	Mark	Project Types
X	Anadromous fish		Construction		Watershed
	Resident fish		O & M		Biodiversity/genetics
	Wildlife		Production	+	Population dynamics
	Oceans/estuaries		Research		Ecosystems
	Climate	+	Monitoring/eval.	X	Flow/survival
	Other	X	Resource mgmt		Fish disease
		+	Planning/admin.		Supplementation
			Enforcement		Wildlife habitat en-
			Acquisitions		hancement/restoration

**Other keywords.**

juvenile passage, adult passage

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**Section 3. Relationships to other Bonneville projects**

Project #	Project title/description	Nature of relationship
8401400	Smolt Monitoring - Federal	Critical Component
8712700	Smolt Monitoring by Non-Federal	Critical Component
9602000	1998 Hatchery PIT tag study	Critical Component
8332300	Smolt Condition & Arrival	Critical Component
9008000	PITAGIS	Critical Component

**Section 4. Objectives, tasks and schedules*****Objectives and tasks***

Obj 1,2,3	Objective	Task a,b,c	Task
1	Plan and implement the annual Smolt Monitoring Program to collect information on the migration characteristics of various stocks of salmon and steelhead within the Columbia		

	Basin for in-season decisions and long term analysis.		
2	Plan and develop a program developing resident fish indices with the fish and wildlife managers, to create a long term data base of resident fish populations.		
3	Maintain a consistent long term data base of daily and annual migration characteristics, hydrologic data, hydrosystems operations data, reservoir operations, water quality, hatchery releases, mark recapture information and other information.		
4	Coordinate & facilitate discussions & analysis, among the agencies & tribes, & the FPC Board of Directors, of fish passage data & hydrosystem operations for enhancement of fish passage conditions & resident fish populations.		
5	Review research proposals, analysis and results applicable to fish passage management issues. Advise agencies and tribes, and the FPC Board of Directors, regarding the relationship and application of research to fish passage management issues.		
6	Consolidate, summarize, and distribute fish passage, reservoir, and other data as directed by the fishery agencies and tribes, and the FPC Board of Directors.		
7	Consolidate, summarize, and distribute resident fish and reservoir indices and data, as directed by the fish and wildlife managers.		

8	Provide technical expertise to the agencies and tribes, and the FPC Board of Directors, on hydrosystem management, fish passage, and resident fish populations. Respond to requests for analysis of data from the agencies and tribes, & FPC Board.i		
9	Participate in committees, meetings, and presentations as requested by the agencies and tribes, and the FPC Board of Directors, and approved by the board of directors, including ESA processes related to mainstem hydrosystem management.		
10	Respond to data requests from state and federal agencies, tribes, private and public utilities, interest groups, and the public at large.		
11	Develop System Operational Requests as directed by the Fish and Wildlife managers committee, addressing juvenile and adult salmon passage and resident fish species year-around.		
12	Maintain a freeze brand coordination program. Maintain a freeze brand data base.		
13	Prepare a Fish Passage Center Annual Report, summarizing fish migration and fish passage operations and implementation and resident fish indices.		
14	Meet ESA permit requirements and reporting requirements for the Smolt Monitoring Program. Respond to NMFS requests for review of specific Section 10 permit applications		
15	Provide weekly reports		

	throughout the migration period, and bi-weekly reports through the end of the passage season. Weekly reports are provided to any entity making a request.		
16	Provide technical assistance, analysis, & data for ESA and Northwest Power Planning & Conservation Act related issues & processes, including ANCOR & PATH process efforts in recovery analysis; states water quality agencies consideration		(con't) of water quality issues, such as dissolved gas levels as it relates to spill for fish passage; the System Configuration Team (SCT); the Technical Management Team (TMT); the Dissolved Gas Team (DGT); & the Implementation Team (IT).
17	Conduct pre-passage season analysis of hydrosystem status and operations, and advise the agencies and tribes, and the FPC Board of Directors. Conduct post-passage season analysis of fish passage, resident fish population characteristics, and hydrosystem		(con't) operations, in addition to the FPC Annual Report.
18	Maintain a current knowledge of the daily operation of the hydrosystem. Maintain communication with the operators and regulators on a daily basis.		
19	Maintain a Fish Passage Center Internet page.		
20	Facilitate an audit of the FPC Data System by independent auditors, as directed by the FPC Board of Directors.		
21	Coordinate the implementation of the Adult and Juvenile Fish Passage Facilities Inspection Coordination Program. Summarize inspection reports. Follow up on findings, reporting issues to the agencies and tribes, & FPC Board of Directors, & pursuing		(con't) their resolution with the U.S. Army Corps of Engineers (COE). Complete an Annual Report of the Adult & Juvenile Fish Facilities Inspection Program.

**Objective schedules and costs**

<b>Objective #</b>	<b>Start Date mm/yyyy</b>	<b>End Date mm/yyyy</b>	<b>Cost %</b>
1	12/1998	11/1999	4.76%
2	12/1998	11/1999	4.76%
3	12/1998	11/1999	4.76%
4	12/1998	11/1999	4.76%
5	12/1998	11/1999	4.76%
6	12/1998	11/1999	4.76%
7	12/1998	11/1999	4.76%
8	12/1998	11/1999	4.76%
9	12/1998	11/1999	4.76%
10	12/1998	11/1999	4.76%
11	12/1998	11/1999	4.76%
12	12/1998	11/1999	4.76%
13	12/1998	11/1999	4.76%
14	12/1998	11/1999	4.76%
15	12/1998	11/1999	4.76%
16	12/1998	11/1999	4.76%
17	12/1998	11/1999	4.77%
18	12/1998	11/1999	4.77%
19	12/1998	11/1999	4.77%
20	12/1998	11/1999	4.77%
21	12/1998	11/1999	4.76%
			<b>TOTAL 100.00%</b>

**Schedule constraints.**

None Known

**Completion date.**

Unknown

**Section 5. Budget*****FY99 budget by line item***

<b>Item</b>	<b>Note</b>	<b>FY99</b>
Personnel		\$532,788
Fringe benefits		\$197,131
Supplies, materials, non-expendable property	Included with Operations & Maintenance	\$0
Operations & maintenance		\$167,964
Capital acquisitions or		\$3,675

improvements (e.g. land, buildings, major equip.)		
PIT tags	# of tags:	
Travel		\$20,992
Indirect costs		\$137,831
Subcontracts		
Other		
<b>TOTAL</b>		<b>\$1,060,381</b>

### ***Outyear costs***

<b>Outyear costs</b>	<b>FY2000</b>	<b>FY01</b>	<b>FY02</b>	<b>FY03</b>
Total budget	\$1,113,400	\$1,169,070	\$1,227,524	\$1,288,900
O&M as % of total	15.84%	15.84%	15.84%	15.84%

## **Section 6. Abstract**

The FPC provides technical analysis and recommendations for fish passage management to the agencies and tribes. The FPC designs and oversees the implementation of the Smolt Monitoring Program, including the dissolved gas trauma monitoring, and distributes the data daily to public and private entities in the region. The FPC maintains historical and current data bases of hatchery release, hydrologic, project operation, reservoir operations, adult salmon passage, juvenile salmon passage, gas bubble trauma, water temperature and dissolved gas data. The FPC provides specific analysis of fish passage alternatives as requested by the FPC Board of Directors and the Anadromous Fish Managers. FPC staff participates in the NMFS Regional ESA process as requested by the agencies and tribes specifically, the Implementation Team process, the Dissolved Gas Team, the Technical Management Team. The FPC is responsible for management of the Comparative Survival Study and FPC staff participates on the interagency Oversight Committee for the project. FPC staff provides analysis and presentation to state water quality agencies as requested by the agencies and tribes.

## **Section 7. Project description**

### **a. Technical and/or scientific background.**

**NOTE: : PLEASE SEE ATTACHMENT. THIS WORK STATEMENT IS REVIEWED ANNUALLY BY THE FPC BOARD WHOSE MEMBER INCLUDE STATE, FEDERAL AND TRIBAL MANAGERS**

The FPC provides fish passage management recommendations regarding spill, flow and fish facilities operations to the Fish and Wildlife Managers. These

recommendations regarding anadromous fish passage and migration are developed by the salmon managers, comprised of representatives of the state and federal fishery agencies and treaty tribes of the Columbia River Basin. The FPC participates in the in-season management processes established by both of these mitigation protection programs. The salmon managers recommendations are based upon FPC analysis and summary of current and historical fish passage data. The FPC designs and implements the annual Smolt Monitoring Program (SMP) which provides daily information for in-season management decisions.

The FPC also provides the agencies and tribes, and the FPC Board of Directors, with reservoir operation information and analysis, including current and historical data. The downstream fish passage measures of the Northwest Power Planning Council (NPPC) Fish and Wildlife Program, include measures for flow and spill to provide mitigation for hydrosystem project impacts. The NMFS Biological Opinion includes measures to protect Endangered Species Act listed stocks of salmon. Both the Opinion and the NPPC Fish and Wildlife Program require data and analysis to implement these measures. The Fish Passage Center project provides data management and distribution and technical analysis to support the management entities in implementation of the NPPC measures and the Opinion measures, and planning decisions for future years.

**b. Proposal objectives.**

**Objective 1: Plan and implement the annual Smolt Monitoring Program to collect information on the migration characteristics of various stocks of salmon and steelhead within the Columbia Basin for in-season decisions and long term analysis.**

**\*Objective 2: Plan and develop a program developing resident fish indices with the fish and wildlife managers, to create a long term data base of resident fish populations.**

**Objective 3: Maintain a consistent long term data base of daily and annual migration characteristics, hydrologic data, hydrosystems operations data, reservoir operations, water quality, hatchery releases, mark recapture information and other information utilized in hydrosystem operation requests for fish passage and to support operations analysis.**

**\*Objective 4: Coordinate and facilitate discussions and analysis, among the agencies and tribes, and the FPC Board of Directors, of fish passage data and hydrosystem operations for enhancement of fish passage conditions and resident fish populations. Provide necessary data compilations, analysis, and graphics to facilitate those discussions.**

**Objective 5: Review research proposals, analysis and results applicable to fish passage management issues. Advise agencies and tribes, and the FPC Board of Directors, regarding the relationship and application of research to fish passage management issues. Maintain current knowledge of proposed and**



on-going studies and their results and applications to fish passage management and hydrosystem operation issues.

- Objective 6:** Consolidate, summarize, and distribute fish passage, reservoir, and other data as directed by the fishery agencies and tribes, and the FPC Board of Directors.
- \*Objective 7:** Consolidate, summarize, and distribute resident fish and reservoir indices and data, as directed by the fish and wildlife managers.
- \*Objective 8:** Provide technical expertise to the agencies and tribes, and the FPC Board of Directors, on hydrosystem management, fish passage, and resident fish populations. Respond to requests for analysis of data from the agencies and tribes, and the FPC Board of Directors, through the FPC board of directors.
- Objective 9:** Participate in committees, meetings, and presentations as requested by the agencies and tribes, and the FPC Board of Directors, and approved by the board of directors, including ESA processes related to mainstem hydrosystem management.
- Objective 10:** Respond to data requests from state and federal agencies, tribes, private and public utilities, interest groups, and the public at large.
- \*Objective 11:** Develop System Operational Requests as directed by the Fish and Wildlife managers committee, addressing juvenile and adult salmon passage and resident fish species year- around.
- Objective 12:** Maintain a freeze brand coordination program. Maintain a freeze brand data base.
- \*Objective 13:** Prepare a Fish Passage Center Annual Report, summarizing fish migration and fish passage operations and implementation and resident fish indices.
- Objective 14:** Meet ESA permit requirements and reporting requirements for the Smolt Monitoring Program. Respond to NMFS requests for review of specific Section 10 permit applications.
- Objective 15:** Provide weekly reports throughout the migration period, and bi-weekly reports through the end of the passage season. Weekly reports are provided to any entity making a request.
- Objective 16:** Provide technical assistance, analysis, and data as requested for ESA and Northwest Power Planning and Conservation Act related issues and processes, including the ANCOR and PATH process efforts in recovery analysis; the states water quality agencies consideration of water quality issues, such as dissolved gas levels as it relates to spill for fish passage; the System Configuration Team(SCT); the Technical Management Team(TMT); the Dissolved Gas Team(DGT); and the Implementation Team(IT).

**\*Objective 17: Conduct pre-passage season analysis of hydrosystem status and operations, and advise the agencies and tribes, and the FPC Board of Directors. Conduct post-passage season analysis of fish passage, resident fish population characteristics, and hydrosystem operations, in addition to the FPC Annual Report.**

**Objective 18: Maintain a current knowledge of the daily operation of the hydrosystem. Maintain communication with the operators and regulators on a daily basis.**

**Objective 19: Maintain a Fish Passage Center Internet page.**

**Objective 20: Facilitate an audit of the FPC Data System by independent auditors, as directed by the FPC Board of Directors.**

**The state and federal salmon management agencies fund the Adult and Juvenile Fish Facilities Inspection Coordination Program at the FPC. The following objective is not funded by BPA, but is a component of the FPC annual work plan:**

**Objective 21: Coordinate the implementation of the Adult and Juvenile Fish Passage Facilities Inspection Coordination Program. Summarize inspection reports. Follow up on findings, reporting issues to the agencies and tribes, and the FPC Board of Directors, and pursuing their resolution with the U.S. Army Corps of Engineers (COE). Complete an Annual Report of the Adult and Juvenile Fish Facilities Inspection Program.**

**c. Rationale and significance to Regional Programs.**

The Fish Passage Center (FPC) was established to provide a unit of technical expertise to provide the foundation for the fishery management agencies and tribes involvement in hydrosystem operation and management as it affects fish and wildlife resources. The analysis and coordination function provided by FPC to the agencies and tribes includes coordination of major interagency efforts such as the Columbia and Snake Rivers Comparative Survival Study of Hatchery PIT Tagged Spring Chinook, and the Basinwide Smolt Monitoring Program. The activities and analysis provided by FPC are utilized in the NMFS Regional Endangered Species Act process, specifically in the Implementation Team, the Technical Management Team, the Dissolved Gas Management Team and other policy and technical committees in the region. FPC analyses are utilized by policy makers for day-to-day management decisions as well as long term mitigation management decisions. FPC analyses, presentations and data compilations are utilized in state water quality issues relating to the state dissolved gas standards by the Oregon Environmental Quality Commission and the Washington Department of Ecology. Data bases developed and maintained by the FPC provide data recovery for various research studies basinwide. Data bases and summaries developed by FPC provide information to all public and private entities.

**d. Project history**

The FPC develops an annual report, summarizing the regional Smolt Monitoring Program data, passage analyses and hydrosystem operations affecting fish passage. Weekly reports summarizing hydrosystem operations, spill, flow, gas bubble symptoms, and dissolved gas levels are distributed to over 450 private and public individuals. An FPC Internet Web page is maintained daily.

The FPC began as The Water Budget Center in 1983, under BPA project number #8712700, which combined the FPC with the Regional Smolt Monitoring Program. In 1994 the Fish Passage Center Project was given an independent project number, #940330.

Budgeted costs for 1995; 1996; 1997; and 1998 were 1,676,908; 964,857; 1,003,862; and 1,009,887 respectively.

**e. Methods.**

The project fiscal management is conducted by the Pacific States Marine Fisheries Commission. The Fish Passage Center is overseen by the Fish Passage Center Board of Directors (Board). The Board is comprised of representatives of tribal, state fish and wildlife agencies, and federal fish and wildlife agencies in the Columbia River Basin. The FPC staff acts as technical staff to the agencies and tribal fishery management agencies. Analysis are provided for agency and tribal review. The FPC relies on extensive coordination and communication with the fishery management agencies. In addition the FPC maintains up-to-date knowledge on fish passage research, data and analysis.

**f. Facilities and equipment.**

The FPC maintains a computer network to transmit data, and to maintain data distribution and analysis. Office space is maintained, fiscal management is conducted by PSMFC.

**g. References.**

The FPC annual reports for this contract 1984 through 1997.

## **Section 8. Relationships to other projects**

The FPC is a key component of projects listed in Section 3, and specifically the Comparative Survival Study, and the Smolt Monitoring Program. FPC also participates in activities relating to the COE transportation programs, dissolved gas abatement and other research projects. The FPC project and its' other key components do not conflict with other projects because all of the projects are developed within a regional review framework. Coordination among activities precludes the possibility of conflict.

## **Section 9. Key personnel**

Michele DeHart, Manager, Fish Passage Center, 1984-present

Margaret Filardo, Biologist, Fish passage Center, 1986-present

Tom Berggren, Biometrician, Fish Passage Center, 1985-present

Pam Kahut, Fiscal Manager, Pacific States marine Fisheries Commission

## **Section 10. Information/technology transfer**

Technical information from the project is distributed to the public, private entities and the entire region through weekly reports and Annual Reports, and daily updates to the FPC Internet Web page. Individual data requests are responded to individually. Upon request from the agencies and tribes, FPC staff present analyses in presentations to various private and public forums, commissions and committees.